

US009918754B2

(12) United States Patent Justis et al.

(54) INSTRUMENTS AND METHODS FOR STABILIZATION OF BONY STRUCTURES

(71) Applicant: **WARSAW ORTHOPEDIC, INC.**, Warsaw, IN (US)

(72) Inventors: **Jeff R. Justis**, Germantown, TN (US); **Michael C. Sherman**, Memphis, TN

(US); **Kevin T. Foley**, Germantown, TN

(US)

(73) Assignee: Warsaw Orthopedic, Inc., Warsaw, IN

(US)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

0.5.C. 154(b) by 0 day

(21) Appl. No.: 15/134,939

(22) Filed: Apr. 21, 2016

(65) Prior Publication Data

US 2016/0228162 A1 Aug. 11, 2016

Related U.S. Application Data

(60) Continuation of application No. 14/525,832, filed on Oct. 28, 2014, now Pat. No. 9,597,127, which is a (Continued)

(51)	Int. Cl.	
	A61B 17/70	(2006.01)
	A61B 17/00	(2006.01)
	A61B 17/16	(2006.01)
	A61B 17/88	(2006.01)
	A61B 17/90	(2006.01)
	A61B 17/68	(2006.01)

(52) **U.S. Cl.** CPC **A61B** 17/7086 (2013.01); **A61B** 17/00234 (2013.01); **A61B** 17/1671 (2013.01); (Continued)

(10) Patent No.: US 9,918,754 B2

(45) **Date of Patent:** Mar. 20, 2018

(58) Field of Classification Search

CPC A61B 17/7032; A61B 17/7037; A61B 17/7035; A61B 17/7002; A61B 17/7053; (Continued)

(56) References Cited

U.S. PATENT DOCUMENTS

2,338,159 A 1/1944 Appleton 2,372,866 A 4/1945 Tofflemire (Continued)

FOREIGN PATENT DOCUMENTS

DE 19726754 A1 2/1999 DE 10027988 A1 1/2002 (Continued)

OTHER PUBLICATIONS

US 6,149,668, 11/2000, Brosnahan et al. (withdrawn) (Continued)

Primary Examiner — Eduardo C Robert Assistant Examiner — Tara R Carter

(57) ABSTRACT

The present invention relates to a brace installation instrument placement that is mounted to anchors secured in an animal subject. The installation instrument includes anchor extensions coupled to the anchors. The instrument is movable with respect to the anchors to position a brace in a position more proximate the anchors. The brace can be indexed for insertion at a predetermined orientation with respect to the installation instrument. Methods and techniques for using the installation instrument are also provided.

20 Claims, 12 Drawing Sheets

